Appendix F: Special-status Species Evaluation

Purpose of this Appendix

A total of 63 special-status wildlife species and 28 special-status plant species were considered in the evaluation of the Reconstruction of the Furnace Creek Water Collection System (see table F-1). These special-species include those listed under the federal Endangered Species Act of 1973, as amended, species listed under the California Endangered Species Act or accorded "special status" (i.e., considered rare or sensitive by the California Department of Fish and Game), and park rare plants. The purpose of this appendix is to:

- Evaluate the effects of the proposed action on special-status species or their critical habitat that are known to be or could be present within the project area
- Determine the need for consultation and conference with the U.S. Fish and Wildlife Service (USFWS)
- Conform to requirements of the Endangered Species Act (19 United States Code [USC] 1536 (c), 50 Code of Federal Regulations [CFR] 402) and the National Environmental Policy Act (NEPA, 42 U.S.C. 4321 et seq., implemented at 40 CFR Parts 1500-1508)

Each species in table F-1 was evaluated to determine (1) the known or likely occurrence of a species or its preferred habitat in the vicinity of the project area and the possibility of a species or its preferred habitat types occurring in areas expected to be affected; (2) the direct physical loss of habitat; (3) the loss of habitat from its modification; and (4) the effective loss of habitat due to construction activity or noise. Habitat fragmentation was also considered. The special-status species are considered further in this environmental impact statement (in Chapter III, Affected Environment, Chapter IV, Environmental Consequences) if actions proposed in the alternatives could have direct, indirect, or cumulative impacts on the species.

The National Park Service (NPS) has determined that many of the 89 special-status species listed in table F-1 warrant further consideration in the body of this environmental impact statement.

A total of 63 special-status wildlife species have been considered in the evaluation of this project. These species were identified based on data gathered from the National Park Service, the U.S. Fish and Wildlife Service, and the California Natural Diversity Data Base (CNDDB). The National Park Service has determined that 13 special-status wildlife species are not known or likely to occur in the vicinity of the project area or that potential habitat for these species is not present. The remaining special-status wildlife species have potential habitat within the proposed action area.

A total of 28 special-status plant species have been considered in the evaluation of this project. These species were identified based on data gathered from the National Park Service, the U.S. Fish and Wildlife Service, the California Natural Diversity Data Base and California Native Plant Society (CNPS). The National Park Service has determined that 15 of these species are not known or likely to occur in the vicinity of the project area or preferred habitat for these species does not occur in the vicinity of the project area. The remaining 13 special-status species that are known to occur or have potential habitat within the project area.

Special-status Species Categories

The federal, state, and National Park Service special-status species listed in table F-1 are categorized as:

- Federal endangered: Any species that is in danger of extinction throughout all or a significant portion of its national range
- Federal threatened: Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its national range
- Federal species of concern: Any species that may become vulnerable to extinction on a national level from declining population trends, limited range, and/or continuing threats (note that this is no longer an official U.S. Fish and Wildlife Service category, but is still considered in this document because it contains many species that could become threatened or endangered)
- Federal species of local concern: species of local or regional concern or conservation significance
- Federally proposed: species officially proposed (in the Federal Register) for listing as endangered or threatened
- Federally delisted: Delisted species. Species to be monitored for five years
- State of California endangered: Any species that is in danger of extinction throughout all or a significant portion of its range in the state
- State of California threatened: Any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its state range
- State of California species of special concern: Any species that may become vulnerable to extinction on a state level from declining population trends, limited range, and/or continuing threats; could become threatened or endangered
- State of California rare (plants only): A native plant that, although not currently threatened with extinction, is present in small numbers throughout its range, such that it may become endangered if its present environment worsens
- National Park rare (plants only): Identified by the National Park Service as rare[1]

Critical Habitat

Critical habitat has been designated for two federally listed bird species that have the potential to occur within the project area: the southwestern willow flycatcher (Federal Register 1997) and the Least Bell's vireo (Federal Register 1994). However, Death Valley National Park, and therefore the project area, is not included in the critical habitat designation for either species.

Critical Habitat has been designated for the spring-loving centaury in Nevada (USFWS 1985) and the species, along with other plants and animals endemic to Ash Meadows is also the subject of a Recovery Plan (USFWS 1990). Although spring-loving centaury was identified as being present in the Travertine Springs area (Threloff 1998) and the USFWS (1985) stated that the species was

[1] Park rare plants include those that are locally rare natives, listed by the California Native Plant Society, endemic to the park or its local vicinity, at the furthest extent of their range, of special importance to the park (identified in legislation or park management objectives), the subject of political concern or unusual public interest, vulnerable to local population declines, or subject to human disturbance during critical portions of their life cycle.

identified in the Furnace Creek area of Death Valley in 1973 but believed to be extirpated, the National Park Service considers the presence of spring-loving centaury as a false report based on review of an analysis of herbarium specimens (NPS 2004e). Spring-loving centaury has not been found in Death Valley since that time and the species is believed to be extirpated from all known locations with the exception of Ash Meadows in Nevada (USFWS 1985).

TABLE F-1
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
FEDERALLY AND STATE LISTED THREATENED OR ENDANGERED SPECIES					
Fish					
Owens tui chub *Gila bicolor snyderi*	FE	CE		The historic distribution was throughout the standing waters and low gradient reaches of the Owens River and its larger tributaries extending from the River's headspring to Owens Lake.	**Removed from further analysis.** Preferred habitat does not occur in the project area. Species not known from Death Valley National Park.
Owens pupfish *Cyprinodon radiosus*	FE	CE		Historically, Owens pupfish occurred in the clear, warm waters of spring pools, sloughs, irrigation ditches, swamps, and flooded pastures along the Owens River from Fish Slough in Mono County to Lone Pine in Inyo County. Habitat alteration associated with the introduction of non-native trout and bass, along with historic water resources development has greatly reduced the distribution and abundance of this species. Currently, this fish is confined to five populations in the Owens Valley.	**Removed from further analysis.** Preferred habitat does not occur in the project area. Species not known from Death Valley National Park.
Devils Hole pupfish *Cyprinodon diabolis*	FE			Occurs only at Devils Hole in Nevada, which is part of larger system that includes Ash Meadows. Endemic to Death Valley National Park.	**Removed from further analysis.** Project area is outside the known range of the species. Devils Hole and the Travertine-Texas Springs Complex are part of the same aquifer, raising the possibility of groundwater pumping under the proposed project to affect groundwater levels at Devils Hole. However, the project area is 15 to 20 miles down-gradient from Devils Hole and the proposed groundwater pumping is not expected to affect water levels at Devils Hole (NPS 2004c,d).
Lahontan cutthroat trout *Oncorhynchus clarki henshawi*	FT			This river and lake residing trout occurs in Pyramid, Walker and Summit lakes, as well as the tributaries and main waters of the Truckee, Walker, Quinn and Humboldt rivers. The species does not occur in Death Valley National Park.	**Removed from further analysis.** Preferred habitat does not occur in the project area. Species not known from Death Valley National Park.
Amphibians					
Black toad *Bufo exsul*		CT		The black toad is a common, but highly restricted species, occurring only in Deep Springs Valley between the White and Inyo Mountains in Inyo Co. at 5000–5200 feet elevation. The species occurs in or near springs, water courses, marshes and wet meadows. A population of this species, likely introduced, was discovered in 1998 in the Saline Valley area of Death Valley National Park, approximately 60 miles northwest of the proposed project area.	**Removed from further analysis.** Not known to occur in the project area. A potentially introduced population of the species occurs in the northwestern portion of Death Valley National Park.

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a] USFWS	State	Other	Habitat Type/Occurrence	Determination
FEDERALLY AND STATE LISTED THREATENED OR ENDANGERED SPECIES (cont.)					
Reptiles					
Mojave desert tortoise *Gopherus agassizii*	FT	CT		Wide variety of habitats including alluvial fans, desert washes, broad valleys, creosote bush communities with annual flower blooms. Friable soil for digging burrows. Known to occur in southern portion of Death Valley National Park.	**Removed from further analysis.** Not known to occur in the project area. Species occurs in southern portion of Death Valley National Park.
Birds					
Willow flycatcher *Empidonax traillii* Southwestern Willow flycatcher *Empidonax traillii extimus*	FE[2]	CE		Inhabit extensive thickets of low, dense willows on edge of wet meadows, ponds, or backwaters. Require dense willow thickets for nesting and roosting; low, exposed branches are used for singing posts and hunting perches. 2000-8000 feet elevation. Almost all breeding habitats are within close proximity (<20 yards) of water or very saturated soil. Uncommon, but known to occur in Death Valley National Park.	**Considered Further in this Analysis.** Potential habitat is present within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Least Bell's vireo *Vireo bellii pusillus*	FE	CE		Inhabits low, dense riparian growth along water or along dry parts of intermittent streams. Typically associated with willow, cottonwood, baccharis, wild blackberry, or mesquite in desert localities. Formerly a common and widespread summer resident below about 600 meters (2000 feet) in western Sierra Nevada, throughout Sacramento and San Joaquin valleys, and in the coastal valleys and foothills from Santa Clara County south. Also was common in coastal southern California from Santa Barbara Co. south, below about 1200 meters (4000 feet) east of the Sierra Nevada, in Owens and Benton valleys, along Mojave River and other streams at western edge of southeastern deserts. Described as a common breeder in the Furnace Creek Wash area in the late 1800's (Fisher 1893), but currently lacks suitable habitat in project area.	**Considered Further in this Analysis.** Although currently not known to occur in Death Valley National Park, the proposed project may result in the reestablishment of suitable habitat for this species. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Inyo California towhee *Pipilo fuscus eremophilus*	FT	CE		Restricted to the proximity of dense riparian vegetation in which it forages and nests. However, the bird also forages on desert hillsides adjacent to the riparian areas. The towhee is an isolated subspecies of the California towhee in the southern Argus Mountains of Inyo County. Not known outside of approximately 11 mile diameter habitat range.	**Removed from Further Analysis.** Project area is outside known range of the species. There is no expected direct, indirect, or cumulative effect on this species from the proposed action and this species is not evaluated further.

[2] Federal endangered status only applies to the southwestern willow flycatcher subspecies, *Empidonax traillii extimus.*

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
FEDERALLY AND STATE LISTED THREATENED OR ENDANGERED SPECIES (cont.)					
Bald eagle *Haliaeetus leucocephalus*	FT			Requires large bodies of water, or free flowing rivers with abundant fish, and adjacent snags or other perches. Swoops from hunting perches, or soaring flight, to pluck fish from water. Will wade into shallow water to pursue fish. Rarely observed in Death Valley National Park.	**Removed from Further Analysis.** Suitable habitat for the species does not exist within project area. There is no expected direct, indirect, or cumulative effect on this species from the proposed action and this species is not evaluated further.
Swainson's hawk *Buteo swainsoni*		CT		Typical habitat is open desert, grassland, or cropland containing scattered, large trees or small groves. Uncommon breeding resident and migrant in the Central Valley, Klamath Basin, Northeastern Plateau, Lassen County, and Mojave Desert. Has been observed in Death Valley National Park, but not on an annual basis.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Bank swallow *Riparia riparia*		CT		Requires vertical banks and cliffs with fine-textured or sandy soils near streams, rivers, ponds, lakes, and the ocean for nesting. Feeds primarily over grassland, shrubland, savannah, and open riparian areas during breeding season and over grassland, brushland, wetlands, and cropland during migration. A neotropical migrant found primarily in riparian and other lowland habitats in California west of the deserts during the spring-fall period. Rarely observed in Death Valley National Park.	**Considered Further in this Analysis.** Potential habitat is present within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Mammals					
Amargosa vole *Microtic californicus scirpensis*	FE	CE		The Amargosa vole inhabits small fresh-water marshes of bulrush, cattail, saltgrass, and willow along a limited stretch of the Amargosa River in Inyo County. The species may occur in adjacent San Bernardino County. The flooding of potential or inhabited vole habitat during late summer thunder storms and extended periods of winter rainfall probably allow permanent vole occupation only in marshes on the margins of the River's floodplain.	**Removed from Further Analysis.** Project area is outside known range of the species. There is no expected direct, indirect, or cumulative effect on this species from the proposed action and this species is not evaluated further.
Mohave ground squirrel *Spermophilus mohavensis*		CT	NPS SS	Open desert scrub, alkali desert scrub, Joshua tree woodland. Feed in annual grasslands. Prefers sandy to gravely soils. Avoids rocky areas; uses burrows at base of shrubs for cover; nests are in burrows. 1800-5000 feet elevation. Occurs in the western Mojave Desert, Inyo, Kern, San Bernadino, Los Angeles Cos. Known to inhabit gentle slopes in the Wingate Wash area in the southern portion of Death Valley National Park.	**Removed from further analysis.** Not known to occur in the project area. There is no expected direct, indirect, or cumulative effect on this species from the proposed action.

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
FEDERALLY AND STATE LISTED THREATENED OR ENDANGERED SPECIES (cont.)					
Plants					
Amargosa nitrophila *Nitrophila mohavensis*	FT	CE	List 1B	Mesic areas, playas with clay substrate. Occurs in Inyo County but not known from Furnace Creek quadrangle (CNPS 2003)	**Removed from further analysis.** Preferred habitat does not occur in the project area. There is no expected direct, indirect, or cumulative effect on this species from the proposed action.
Fish Slough milk vetch *Astragalus lentiginosus* var. *piscinensis*	FT		List 1B	Alkaline playas. Known from Inyo County but not from Death Valley area (CNPS 2003).	**Removed from further analysis.** Preferred habitat does not occur in the project area. Species not known from Death Valley National Park. There is no expected direct, indirect, or cumulative effect on this species from the proposed action.
Spring-loving centaury *Centaurium namophilum*	FT, CH			Open, moist alkali areas, including seeps and meadows at elevations from 2100 to 3500 feet. Annual species blooms from May through October.	**Removed from further analysis.** Although suitable habitat occurs in the project area, the project area lies below the known elevation range for the species. Species not currently known from Death Valley National Park. Although spring-loving centaury was identified as being present in the Travertine Springs area (Threloff 1998) and the USFWS (1985) stated that the species was identified in the Furnace Creek area of Death Valley in 1973 but believed it to be extirpated, the National Park Service considers the presence of spring-loving centaury as a false report based on review of an analysis of herbarium specimens (NPS 2004e). Additionally, the Jepson Flora Project (2001) considers the taxon to have been misidentified as being present in California. Spring-loving centaury is not listed in the California Natural Diversity Database for the Furnace Creek quadrangle (CDFG 2004), in the California Native Plant Society's Online Inventory (CNPS 2003), or in the Jepson Manual (Hickman 1993). The National Park Service conducted a rare plant survey during the spring of 2001 and

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
FEDERALLY AND STATE LISTED THREATENED OR ENDANGERED SPECIES (cont.)					
Spring-loving centaury *Centaurium namophilum* (cont.)					spring-loving centaury was not found (NPS 2001e). The National Park Service conducted a species-specific investigation for spring-loving centaury in 2001 and determined that the species is not known to occur in Death Valley National Park (NPS 2001d). This information was submitted to the U.S. Fish and Wildlife Service. Spring-loving centaury is believed to be extirpated from all locations but Ash Meadows National Wildlife Refuge in Nevada. Critical Habitat has been designated for this species in Nevada (USFWS 1985) and the species, along with other plants and animals endemic to Ash Meadows is the subject of a Recovery Plan (USFWS 1990).
July gold *Dedeckera eurekensis*	FSC	CR	List 1B	Mojavean desert scrub on limestone outcrops at elevations ranging form 4000 to 7200 feet.	**Removed from further analysis.** Preferred habitat does not occur in the project area. Known distribution in Death Valley includes Last Chance Range and Cottonwood Mountains (NPS 2004h). Project area lies below the elevational range of the species. There is no expected direct, indirect, or cumulative effect on this species from the proposed.
Ash meadows gumplant *Grindelia fraxino-pratensis*	FT, CH		List 1B	Meadows and seeps, other mesic sites with clay substrate at about 2000 feet elevation.	**Removed from further analysis.** Preferred habitat does not occur in the project area. Project area lies below the elevational range of the species. Occurs in Inyo County but not reported from Furnace Creek quadrangle. In California documented from two extant occurrences at Carson Slough in the Amargosa Desert (CNPS 2003).There is no expected direct, indirect, or cumulative effect on this species from the proposed action.
Rock lady *Maurandya petrophila*		CR	List 1B	Carbonate, rocky soils in Mojavean desert scrub at elevations ranging from 1500 to 5200 feet.	**Removed from further analysis.** Preferred habitat does not occur in the project area. Project area lies below the elevational range of the species. Occurs in Inyo County but not reported from Furnace Creek quadrangle. (CNPS 2003).There is no expected direct, indirect, or cumulative effect on this species from the proposed action.

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
FEDERALLY AND STATE LISTED THREATENED OR ENDANGERED SPECIES (cont.)					
Eureka Valley evening-primrose *Oenothera californica* ssp. *eurekensis*	FE	CR	List 1B, PEN	Occurs in desert dune habitat and sandy washes at elevations ranging from 2860 to 3840 feet.	**Removed from further analysis.** Preferred habitat does not occur in the project area. Project area lies well below the elevational range for the species. Species not recorded from Furnace Creek quadrangle (CNPS 2003). Reported only from dunes in Eureka Valley within Death Valley National Park (CNPS 2003). There is no expected direct, indirect, or cumulative effect on this species from the proposed action and this species is not evaluated further.
Eureka dune grass *Swallenia alexandrae*	FE		List 1B, PEN	Occurs in desert dune habitat at elevations ranging from 2950 to 4200 feet.	**Removed from further analysis.** Preferred habitat does not occur in the project area. Project area lies well below elevational range for the species. Species not recorded from Furnace Creek quadrangle (CNPS 2003). Reported only from Eureka Valley Dunes in Death Valley National Park (CNPS 2003). There is no expected direct, indirect, or cumulative effect on this species from the proposed action and this species is not evaluated further.
FEDERAL CANDIDATE AND PROPOSED SPECIES					
Invertebrates					
Nevares Spring naucorid bug *Ambrysus funebris*	FC		NPS SS PEN	Naucorids typically prefer stream riffles that are swift enough to keep sand and silt from accumulating, but not so fast that coarse, gravelly substrates are removed. Most abundant near spring sources. The distribution of this species is limited to the Travertine-Nevares Spring Complex, where it is the least abundant of the endemic invertebrates (Threloff 2001). Also introduced at Texas Springs.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Birds					
Mountain plover	FPT	CSC		Frequents open plains with low, herbaceous or scattered shrub vegetation. Population declining and very local; occasionally fairly common. Winter resident from September through March. Found on short grasslands and plowed fields of the Central Valley from Sutter and Yuba cos. southward. Also found in foothill valleys west of San Joaquin Valley, and in Imperial Valley. Does not nest in California. Rare fall visitor to Death Valley National Park.	**Considered Further in this Analysis.** Potential habitat is present within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
FEDERAL CANDIDATE AND PROPOSED SPECIES (cont.)					
Western yellow-billed cuckoo *Coccyzus americanus occidentalis*	FC	CT		Occurs in broad riparian forests, along the lower flood-bottoms of larger river systems. Nests in riparian jungles of willow, often mixed with cottonwoods, with lower story of blackberry, nettles, or wild grape. Transient visitor to Death Valley and only occasional observed.	**Considered Further in this Analysis.** Potential habitat is present within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
FEDERAL SPECIES OF CONCERN					
Birds					
Northern goshawk *Accipiter entiles*	FSC	CSC	NPS SS	Favors moderately dense coniferous forests broken by meadows, and other openings, between 5000 and 9000 feet in elevation. Typically nests in mature conifer stands near streams. Habitat destruction in its range has caused declines in population. Records exist for Death Valley, primarily in the fall, and is considered a transient visitor.	**Considered Further in this Analysis.** Potential habitat is present within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Tricolored blackbird *Agelaius tricolor*	FSC	CSC	NPS SS	Breeds near freshwater, preferably in emergent wetland with tall, dense cattails or tules, but also in thickets of willow, blackberry, wild rose, tall herbs. Feeds in grassland and cropland habitats. Transient visitor to Death Valley and only occasional observed.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Ferruginous hawk *Buteo regalis*	FSC	CSC	NPS SS	Frequents open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. Casual occurrences in Death Valley National Park, primarily between September and February.	**Considered Further in this Analysis.** Potential habitat is present within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Loggerhead shrike *Lanius ludovicianus*	FSC	CSC	NPS SS	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Highest density occurs in open-canopied valley foothill hardwood, valley foothill hardwood-conifer, valley foothill riparian, pinyon-juniper, juniper, desert riparian, and Joshua tree habitats. In the Great Basin, from Inyo County north, population declines markedly from November through March. Has been observed in project area.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
White-faced Ibis *Plegadis chinhi*	FSC	CSC	NPS SS	Prefers to feed in fresh emergent wetland, shallow lacustrine waters, and muddy ground of wet meadows and irrigated, or flooded, pastures and croplands. Nests in dense, fresh emergent wetland. Has been observed in project area during migration.	**Considered Further in this Analysis.** Minimal habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
FEDERAL SPECIES OF CONCERN (cont.)					
Burrowing owl *Speotyto cunicularia*	FSC	CSC	NPS SS	Major habitat are prairie-like terrain with low herbaceous vegetation, deep soil for burrows, the occurrence of mammals that excavate burrows, and a food supply. They are adapted to open, usually dry country with short vegetation. Being ground-dwellers, it is difficult for them to detect approaching predators or find prey in brushland or forest. Infrequently observed in Death Valley National Park.	**Considered Further in this Analysis.** Minimal habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Sage sparrow	FSC	CSC	NPS SS	Not migratory in many areas, but mostly withdraws from higher elevations and northern Great Basin in winter and moves to southern deserts. Frequents low, fairly dense stands of shrubs. In transmontane California, it occupies sagebrush, alkali desert scrub, desert scrub, and similar habitats. In cismontane California, it frequents chaparral dominated by chemise, and coastal scrub dominated by sage. It is most common from the western edge of Owens Valley, Inyo County, south through southern Sierra Nevada and the western edge of the Mojave Desert to the desert slopes of Transverse Ranges. Infrequently observed in Death Valley National Park.	**Considered Further in this Analysis.** Minimal habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Mammals					
Townsend's western big-eared bat *Corynorhinus townsendii*	FSC	CSC		Requires caves, mines, tunnels, buildings, or other human-made structures for roosting. May use separate sites for night, day, hibernation, or maternity roosts. Prefers mesic habitats. Known to occur in Death Valley National Park.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Small-footed myotis bat *Myotis ciliolabrum*	FSC			Usually found above 6,000 feet in wooded and brushy habitats near water. Forages among trees and over water. Breeds in colonies in buildings, caves, and mines. Known to occur in Death Valley National Park.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Fringed myotis bat *Myotis thysanodes*	FSC			Feeds over water in open habitats, and by gleaning from foliage. Roosts in caves, mines, buildings, and trees, especially large conifer snags. Known to occur in Death Valley National Park.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
FEDERAL SPECIES OF CONCERN (cont.)					
Plants					
White bear poppy *Arctomecon merriami*	FC		List 2	Rocky slopes in chenopod scrub or Mojavean desert scrub at elevations ranging from 1500 to 5000 feet. Known from Scotty's Ranch vicinity.	**Removed from further analysis.** Project area lies below the elevational range for the species. Not known from Furnace Creek quadrangle. There is no expected direct, indirect, or cumulative effect on this species from the proposed action and this species is not evaluated further.
Shining milkvetch *Astragalus lentiginosus* var. *micans*	FC		List 1B	Endemic to Eureka Valley sand dunes in Death Valley National Park. Occurs at elevations from 2790 to 3840 feet.	**Removed from further analysis.** Preferred habitat does not occur within the project area and area lies below the elevational range for the species. There is no expected direct, indirect, or cumulative effect on this species from the proposed action and this species is not evaluated further.
Napkin ring buckwheat *Eriogonum intrafractum*	FC		List 1B, PEN	Limestone gravels and outcrops at elevations ranging from 2590 to 5250 feet. Endemic to Death Valley, known only from the Cottonwood, Grapevine, Panamint, and Funeral Mountains.	**Removed from further analysis.** Preferred habitat does not occur within the project area and area lies well below the elevational range for the species. There is no expected direct, indirect, or cumulative effect on this species from the proposed action and this species is not evaluated further.
STATE SPECIES OF SPECIAL CONCERN					
Birds					
Golden eagle *Aquila chrysaetos*		CSC		Preferred habitat includes rolling foothills, mountain areas, sage-juniper flats, and desert from sea level to 11500 feet. Nests on cliffs of all heights and in large trees in open areas. Occurrence in Death Valley National Park uncommon to rare.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Northern harrier *Circus cyaneus*		CSC		Frequents meadows, grasslands, open range-lands, desert sinks, fresh and saltwater emergent wetlands; seldom found in wooded areas. Occurs from annual grassland up to lodgepole pine and alpine meadow habitats, as high as 10000 feet. Current occurrence in Death Valley is uncommon.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Cooper's hawk *Accipiter cooperi*		CSC		Dense stands of live oak, riparian deciduous, or other forest habitats near water used most frequently. A breeding resident throughout most of the wooded portion of the state. Breeds in southern Sierra Nevada foothills, New York Mountains, Owens Valley, and other local areas in southern California. Regularly observed in project area.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
STATE SPECIES OF SPECIAL CONCERN (cont.)					
Sharp-shinned hawk *Accipiter striatus*		CSC		Fairly common migrant and winter resident throughout California, except in areas with deep snow. Breeds in ponderosa pine, black oak, riparian deciduous, mixed conifer, and Jeffrey pine habitats. Prefers, but not restricted to, riparian habitats. North facing slopes, with plucking perches are critical requirements. All habitats except alpine, open prairie, and bare desert used in winter. Uncommon occurrences in Death Valley National Park in spring and fall.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Osprey *Pandion haliaetus*		CSC		Associated strictly with large, fish-bearing waters, primarily in ponderosa pine through mixed conifer habitats. Breeds in northern California from Cascade Ranges south to Lake Tahoe, and along the coast south to Marin County. Regular breeding sites include Shasta Lake, Eagle Lake, Lake Almanor, other inland lakes and reservoirs, and northwest river systems. Has been observed in Death Valley National Park during spring and fall, but not on an annual basis.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Long-eared owl *Asio otus*		CSC		Requires riparian or other thickets with small, densely canopied trees for roosting and nesting. Proximity of this habitat to meadow edges for hunting also enhances quality. Transient visitor to Death Valley and only occasional observed.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Short-eared owl *Asio flammeus*		CSC		Found in open, treeless areas with elevated sites for perches, and dense vegetation for roosting and nesting. A widespread winter migrant, found primarily in the Central Valley, in the western Sierra Nevada foothills, and locally in the southern desert region. Transient visitor to Death Valley and only occasional observed.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Western least bittern *Ixobrychus exilis*		CSC		In southern California, common summer resident at Salton Sea and Colorado River, in dense emergent wetlands near sources of freshwater, and in desert riparian (saltcedar scrub). Probably nests only in emergent wetlands. Uncommon through winter in some locations; quite rare in deserts and coastal lowlands. Rarely observed in Death Valley National Park.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
STATE SPECIES OF SPECIAL CONCERN (cont.)					
Long-billed curlew *Numenius americanus*		CSC		Upland shortgrass prairies and wet meadows are used for nesting; coastal estuaries, open grasslands, and croplands are used in winter. An uncommon to fairly common breeder from April to September in wet meadow habitat in north-eastern California in Siskiyou, Modoc, and Lassen Counties. One known nesting record for Owens Valley. Rarely observed in project area.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Yellow warbler *Dendroica petechia brewsteri*		CSC		Prefers riparian woodlands, but also breeds in chaparral, ponderosa pine, and mixed conifer habitats with substantial amounts of brush. In recent decades, numbers of breeding pairs have declined dramatically in many lowland areas of California. A major cause of this decline has apparently been brown-headed cowbird parasitism. Observed regularly in project area during migration.	**Considered Further in this Analysis.** Although currently uncommon in Death Valley National Park, the proposed project may result in the reestablishment of suitable habitat for this species. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Virginia's warbler *Vermivora virginiae*		CSC		Nesters frequent arid slopes with moderate to dense stands of tall shrubs with scattered trees. Characteristic shrubs include mountain mahogany, manzanita, serviceberry, and snowberry, trees include pinyon pine, limber pine and white fir. Also may nest in riparian thickets of willow or wild rose along streams in desert ranges. Specific breeding localities include White Mountains and Inyo Mountains. Has been observed in the project area.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Horned lark *Eremophila alpestris*		CSC		Found from grasslands along the coast and deserts near sea level to alpine dwarf-shrub habitat above treeline. In winter, flocks in desert lowlands and other areas augmented by winter visitants. Uncommon in Death Valley National Park throughout the year.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Merlin *Falco columbarius*		CSC		Occurs mostly below elevations of 4000 feet, ranging from annual grasslands to ponderosa pine and California black oak woodland, but prefers open country. Seldomly found in open desert. Feeds primarily on birds. Reduction in numbers over recent decades may be due to pesticides. This species has only occasionally been observed in Death Valley.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Prairie falcon *Falco mexicanus*		CSC		Primarily associated with open areas such as grasslands, meadows, and desert scrub areas where it feeds on small mammals and birds. Nests on cliffs. Have declined in California due to several probable factors, including nest robbing by humans, control of prey species, and pesticides. Known to occur in project area.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
STATE SPECIES OF SPECIAL CONCERN (cont.)					
Yellow-breasted chat *Icteria virens*		CSC		Frequents dense, brushy thickets and tangles near water, and thick understory in riparian woodland. Species rarely observed in Death Valley National Park.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Vermillion flycatcher *Pyrocephalus rubinus*		CSC		Prefer riparian thickets edge on open, mesic habitats. Rare fall and winter visitor throughout the lowlands of southern California from Santa Barbara and Inyo Counties south. Has been observed in Death Valley National Park, but not on annual basis.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Brown-crested flycatcher *Myiarchus tyrannulus*		CSC		Most numerous in riparian groves of cottonwood, mesquite, willow, which afford suitable nest sites, but often forages in adjacent desert scrub or plantings of saltcedar. Although more common in desert oases and riparian habitats northwest to Mojave River near Victorville, San Bernardino County, vagrants have been recorded west to the South Fork Kern Riverand north to Furnace Creek Ranch.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Gray vireo *Vireo vicinior*		CSC		Breeders frequent arid, shrub-covered slopes with sparse to moderate cover and scattered small trees. An uncommon, local, summer resident in arid pinyon-juniper, juniper, and chamise-redshank chaparral habitats from 2000-6500 feet in mountains of the eastern Mojave Desert. Known to nest in Grapevine Mountains area and observed in Death Valley during winter.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Summer tanager *Piranga rubra*		CSC		An uncommon (formerly common) summer resident and breeder in desert riparian habitat along lower Colorado River; also occurs very locally elsewhere in southern California deserts. Found in additional desert and other localities in migration. It is a rare but regular migrant and winter visitor along the coast, mostly from Los Angeles County southward, scattered records occur in northern California. Breeds in mature, desert riparian habitat dominated by cottonwoods and willows. The species has been observed in Death Valley National Park, but not on an annual basis.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
STATE SPECIES OF SPECIAL CONCERN (cont.)					
Hepatic tanager *Piranga flava*		CSC		The Hepatic Tanager has only recently expanded its range to include California. Only four breeding localities are currently known, all in San Bernardino County. The total population in California is very small. One male and one female were observed at Furnace Creek Ranch in 1976, but the species is considered unlikely to occur in Death Valley National Park.	**Removed from Further Analysis.** Preferred habitat not present in project area. There is no expected direct, indirect, or cumulative effect on this species from the proposed action and this species is not evaluated further.
Le Conte's thrasher *Toxostoma lecontei*		CSC		Widespread but rare permanent resident in the western and southern San Joaquin Valley, upper Kern River Basin, Owens Valley, Mojave Desert, and Colorado Desert. Frequents desert washes and flats with scattered shrubs and large areas of open, sandy, or alkaline terrain in desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats. Known to occur in Death Valley National Park.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Crissal thrasher *Toxostoma crissale*		CSC		Occupies dense thickets of shrubs or low trees in desert riparian and desert wash habitats. In eastern Mojave Desert of San Bernardino and southeastern Inyo Counties, it also occurs in dense sagebrush and other shrubs in washes within juniper and pinyon-juniper habitats, up to 5900 feet elevation. Has been observed in Death Valley National Park, but not on an annual basis.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Bendire's thrasher *Toxostoma bendirei*		CSC		Frequents flat desert areas with scattered stands of thorny shrubs and cactus for cover, foraging, and nesting. A very local spring and summer resident and breeder in flat areas of desert succulent shrub and Joshua tree habitats in Mojave Desert area. Occurs primarily in San Bernardino County, and now only very sparsely in the southwestern portion of the county. Has been observed in Death Valley National Park at times, but not on an annual basis.	**Considered Further in this Analysis.** Limited habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Mammals					
Pallid bat *Antrozous pallidus*		CSC		Primarily found below 6000 feet in elevation, in a variety of habitats, especially oak, ponderosa pine, and giant sequoia habitats. Roosts in rock outcrops, caves, and especially hollow trees. Known to occur in Death Valley National Park.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
American badger *Taxidea taxus*		CSC		Uncommon, permanent resident found throughout most of the state, except in the northern North Coast area. Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Has been observed in the Daylight Pass area of Death Valley National Park.	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
PARK RARE SPECIES					
Invertebrates					
Badwater snail *Assiminea infima*			NPS SS PEN	This species is known from various locations in Death Valley National Park, including Travertine, Nevares, and Badwater Springs, and Cottonball Marsh (Threloff 2001). The Travertine and Nevares populations may be genetically distinct (i.e. different species) from the Badwater and Cottonball population. Badwater snails occur primarily in moist, open areas surrounding spring sources where they are most common in decaying cattail, sedges, and fan palm (Sada and Herbst 2003). The species is heavily impacted by habitat degradation resulting from foot trampling in the vicinity of the springs (Threloff 2001).	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Robust Ipnobius springsnail *Ipnobius robustus*			NPS SS PEN	The presence of this unusual spring snail in the Travertine-Nevares Springs Complex was recognized as early as 1973. Available data suggest that the robust tryonia snail is the most abundant endemic invertebrate in the Travertine-Nevares Springs Complex. The snail is 1 of the 2 most widely distributed endemic invertebrates in the Furnace and Cow Creek areas, and the animal is present in the majority of the local stream habitats (Threloff 2001). Prefers warm water with moderate current velocities and depth (Sada and Herbst 2003).	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Texas Springs amphipod *Hyalella muerta*			PEN	The species is currently known to be present in all 4 of the Travertine Springs water collection galleries, the Texas Spring tunnel, and the water collection gallery at Nevares Spring. This largely subterraneous amphipod occurs only rarely in surface water habitats (Threloff 2001). Prefers moderately warm habitats with low current velocities in shallow water where cover is dense (Sada and Herbst 2003).	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Travertine Springs amphipod *Hyalella sandra*			PEN	This species is the second most abundant endemic aquatic invertebrate in the Travertine-Nevares Springs Complex. The animal is also present in the stream west of the Texas Spring Tunnel as a result of accidental reintroduction (Threloff 2001). Prefers warm habitats with moderate to high current velocities in moderately deep water where cover is dense (Sada and Herbst 2003).	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
PARK RARE SPECIES (cont.)					
Furnace Creek riffle beetle *Microcylloepus formicoideus*			NPS SS PEN	Species is only known to occur in the Travertine-Nevares Spring Complex. Relatively common in the Travertine Springs area. Most abundant near spring sources; prefers warmer habitats with moderate and swift currents in comparatively shallow water with sparse cover (Sada and Herbst 2003)	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Western riffle beetle *Microcylloepus similis*			NPS SS	Relatively widespread species that is known to occur at 5 locations within Death Valley National Park, including Travertine Springs and Furnace Creek Wash, but occurs in low numbers where found (Threloff 2001, Sada and Herbst 2003). Prefers warm habitats with moderate currents in comparatively shallow water and moderate cover (Sada and Herbst 2003).	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Undescribed ostracode No. 1 *Candona* n. sp. #1			PEN	Endemic, subterranean seed shrimp known to occur in Travertine Springs water collection galleries (Threloff 2001).	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Undescribed ostracode No. 2 *Candona* n. sp. #2			PEN	Endemic, subterranean seed shrimp known to occur in Nevares Springs water collection gallery. Distribution within Death Valley National Park not certain, but have not been found in Travertine or Texas Springs (Threloff 2001).	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
Undiscribed ostracode No. 3 *Microdarwinula* n. sp.			PEN	Endemic, subterranean seed shrimp known to occur in Travertine Springs water collection galleries (Threloff 2001).	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.
REGIONALLY RARE SPECIES					
Amphibians					
Red-spotted toad *Bufo punctatus*			Rare to Region	Red-spotted toads, present in the Travertine Spring complex, represent the only known native amphibian population in an area that measures 800,000 acres in size (Threloff 1996). Modest numbers of animals (50-100) have been known to occur in the stream that is present in the bottom of Furnace Creek Wash. The small stream habitats below Travertine Springs	**Considered Further in this Analysis.** Suitable habitat for this species occurs within the project area. Refer to Chapter III for background data on this species and Chapter IV for an analysis of direct, indirect, or cumulative effects on this species.

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a] USFWS	State	Other	Habitat Type/Occurrence	Determination
REGIONALLY RARE SPECIES (cont.)					
				and Texas Spring also possess red-spotted toads, albeit in lower numbers than those that exist in the Wash. Red-spotted toad dependence on local surface waters was documented in the Cow Creek area five miles north of Furnace Creek when 146 of the 165 animals that were studied in the 1950s were found to be sitting in or adjacent to surface water, while only 19 animals were found on a dry substrate or grass (Turner 1959).	
Plants					
Ribbed cryptantha *Cryptantha costata*			List 4	Sandy soils in desert dunes, creosote scrub, Mojavean desert scrub, or Sonoran desert scrub habitats at less than 1500 feet in elevation.	**Considered further in this analysis.** Recorded as present at the Furnace Creek, Texas, and/or Travertine Springs areas (NPS 2001c).
Winged cryptantha *Cryptantha holoptera*			List 4	Sandy to rocky soils in Mojavean desert scrub and Sonoran desert scrub from 300 to 3600 feet elevation	**Considered further in this analysis.** Recorded as present at the Furnace Creek, Texas, and/or Travertine Springs areas (NPS 2001c).
Reveal's buckwheat *Eriogonum contiguum*			List 2	Known in California only from Inyo and San Bernadino Counties. Occurs on north facing volcanic slopes or dry desert flats with Mojavean desert scrub and sandy soils.	**Considered further in this analysis.** Reported from multiple locations along Furnace Creek Wash and 0.5 mile east of Travertine Springs (NPS 2001b).
Robust Hoffmann's buckwheat *Eriogonum hoffmannii* var. *robustius*			List 1B	Dry, sandy soils that support Mojavean desert scrub from 900 to 2300 feet elevation	**Considered further in this analysis.** Recorded as present at the Furnace Creek, Texas, and/or Travertine Springs areas (NPS 2001b).
Hot-springs fimbristylis *Fimbristylis thermalis*			List 2	Alkaline meadows near hot springs. Known from waterways and freshwater marsh areas in Travertine Springs area (NPS 2001c).	**Considered further in this analysis.** Reported from waterways and freshwater marsh areas in Travertine Springs area (NPS 2001e, NPS 2001b).
Death Valley golden carpet *Gilmania luteola*			List 1B	Alkaline barrens in silty or gravelly soils with chenopod scrub. Species requires above average amounts of precipitation and proper timing to germinate and is thus difficult or impossible to find in most years (CDFG 2004).	**Considered further in this analysis.** Endemic to Death Valley. Reported from Furnace Creek Wash and hills east of Texas Springs (NPS 2001b).
California mock pennyroyal *Hedeoma nanum* var. *californicum*			List 4	Rocky, carbonate soils in Joshua tree woodland or pinyon and juniper woodland	**Removed from further analysis.** Preferred habitat does not occur within the project area. Reported from Travertine Canyon (NPS 2001b).
Copperwort *Iva acerosa*			List 4	Alkaline meadows and seeps, saline playas.	**Considered further in this analysis.** Documented at Texas Springs (NPS 2001b).
Cooper's rush *Juncus cooperi*			List 4	Alkaline or saline mesic habitats, including meadows and seeps.	**Considered further in this analysis.** Reported from Travertine and Texas Springs (NPS 2001b).
Knotted rush *Juncus nodosus*			List 2	Meadows, streambanks, and other mesic habitats, marshes and swamps at lake margins	**Considered further in this analysis.** Suitable habitat for the species exists at Travertine and Texas Springs.

TABLE F-1 (Continued)
Special-Status Species Evaluation

Species	Status[a]			Habitat Type/Occurrence	Determination
	USFWS	State	Other		
REGIONALLY RARE SPECIES (cont.)					
Death Valley monkeyflower *Mimulus rupicola*			List 4, PEN	Occurs in crevices in limestone rock from 980 to 5900 feet elevation. Endemic to Death Valley National Park.	**Removed from further analysis.** Preferred habitat does not occur within the project area and area lies well below the elevational range for the species. There is no expected direct, indirect, or cumulative effect on this species from the proposed action.
Utah mortonia *Mortonia utahensis*			List 4	Joshua tree woodland, Mojavean desert scrub, carbonate soils in pinyon and juniper woodland.	**Removed from further analysis.** Preferred habitat does not occur within the project area. Reported from Travertine Canyon (NPS 2001c).
Death Valley sandpaper plant *Petalonyx thurberi* ssp. *gilmanii*			List 1B	Desert dunes and sandy washes in Mojavean desert scrub at elevations ranging from 800 to 4500 feet (CNPS 2003).	**Considered further in this analysis.** Recorded as present at the Furnace Creek, Texas, and/or Travertine Springs areas (NPS 2001b).
Death Valley sage *Salvia funerea*			List 4	Carbonate soils in Mojavean desert scrub. Known from Furnace Creek Wash in Ryan area (NPS 2001c).	**Considered further in this analysis.** Reported from Furnace Creek Wash in Ryan area (NPS 2001b).
Black sedge *Schoenus nigricans*			List 2	Primarily found in alkaline marshes and swamps.	**Considered further in this analysis.** Reported from Texas Springs (NPS 2001e).
Pineapple cactus *Sclerocactus johnsonii*			List 2	Granitic areas, creosote bush scrub at elevations from 1500 to 5000 feet (CNPS 2003).	**Removed from further analysis.** Preferred habitat does not occur within the project area. Reported from Furnace Creek Wash, north of highway 190, just outside of park (NPS 2001b).
Death Valley blue-eyed-grass *Sisyrinchium funereum*			List 1B	Generally found in strongly alkaline soils at the margins of meadows and other mesic areas.	**Considered further in this analysis.** In California endemic to Death Valley. Recorded from Travertine Springs (NPS 2001b).

[a] Status: FE = federally endangered, FT = federally threatened, FPT = federally proposed threatened, FD = federally delisted (status to be monitored for at least five years), FSC = federal species of concern, FC = federal candidate species, CE = California endangered, CT = California threatened, CSC = California species of special concern, CR = California rare, NPS SS = National Park Service Sensitive Species = Any species or subspecies not otherwise designated whose population characteristics warrant special management or more intensive monitoring. Consideration may include but is not limited to: local rarity; endemism, Park management objectives, usefulness of species as an indicator species, vulnerability to population declines; human disturbance; political concern / public interest, PEN = Park Endemic; species not found outside of the boundary of Death Valley National Park, List 1B = Plants rare, threatened, or endangered in California and elsewhere, List 2 = Plants rare, threatened, or endangered in California, List 4 = Plants of limited distribution.

Appendix G: Water Use

Projected water demand in Furnace Creek is based upon patterns of historic use and water right allocations. Historically, two water meters were used at the 2-million gallon potable water tank: one measuring water use by Xanterra Parks and Resorts (Xanterra) and the second measuring joint water use by the Timbisha Shoshone Tribe and the National Park Service. A secondary water meter west of Highway 190 recorded water usage used exclusively by the Tribe. Water consumption by Xanterra also was measured by a weir at the Inn Tunnel, from which nonpotable water supplies for the golf course are drawn (Psomas 2001). Due to the system's antiquity and the inaccuracy associated with existing metering devices, new meters were installed in 2001 to establish annual water use patterns by the Timbisha Shoshone Tribe, the National Park Service, and Xanterra.

Water use by the Timbisha Shoshone Tribe varies in association with fluctuating water demand throughout the year. Between 1994 and 2000, peak water use was during the month of August (45 gallons per minute [gpm]) (Psomas 2001). However, following water line repairs in recent years average water use dropped to 23 gpm (NPS 2003). As further discussed in Appendix B, the Timbisha Shoshone Homeland Act establishes a tribal water right of 57 gpm potable water. Therefore, Alternatives 1 through 4 assume tribal use of their maximum water right entitlement. Table G-1 summarizes historic Timbisha Shoshone average monthly water use.

Table G-1
Timbisha Shoshone Water Use (gpm)

	Potable[1]
January	17
February	15
March	17
April	21
May	13
June	16
July	26
August	45
September	38
October	22
November	18
December	16

1 Estimated monthly potable water use in 1995 and 1999.

Source: Psomas 2001.

Average monthly use of potable water by the National Park Service is approximately 63 gpm, although historical peak monthly demand has been higher (Psomas 2001). Table G-2 summarizes historic National Park Service average monthly water use.

Xanterra's potable and nonpotable water use is based upon an analysis of facility demands and water meter readings. A large percentage of the potable water drawn from the 2-million gallon tank by Xanterra is currently used for nonpotable purposes such as irrigation, waterfalls at the Furnace Creek Inn, ponds at the golf course, and swimming pools. Xanterra and Eco:Logic, a

Table G-2
National Park Service Water Use (gpm)

	Potable[1]
January	120
February	113
March	40
April	49
May	49
June	62
July	75
August	40
September	76
October	41
November	47
December	34

1 Estimated monthly potable water use between September 1994 and October 1995.

Source: Psomas 2001.

consultant retained by Xanterra, evaluated water consumption of facility components in Xanterra's in-holdings. In 2002, approximately 30 percent of water drawn from the 2-million gallon tank was used for potable needs, while the remaining 70 percent was used for irrigation or other nonpotable purposes. However, increased potable and nonpotable demand during the summer months resulted in a higher overall rate of water consumption (Eco:Logic 2002).

Xanterra draws an annual average of 145 gpm of nonpotable water from the Inn Tunnel throughout the year, although during the summer irrigation season average use of nonpotable water from the Inn Tunnel increases to 170 gpm and generates a peak demand of 230 gpm (NPS 2004b). Peak average monthly use of water drawn from 2-million gallon tank for nonpotable purposes in 2002 was 723 gpm in June, while annual average monthly use was 635 gpm. Based upon water metering data and the potable/nonpotable water demand established by Xanterra and Eco:Logic, peak monthly use of potable and nonpotable water was 440 gpm and 893 gpm, respectively. The annual average monthly use of potable and nonpotable was 223 gpm and 780 gpm, respectively (Eco:Logic 2002). Table G-3 summarizes Xanterra's average and peak monthly water use.

Table G-4 summarizes average monthly water use by National Park Service, the tribe, and Xanterra under existing conditions, and estimated average water use under Alternative 1 (the no action alternative) and Action Alternatives 2 through 4. All alternatives assume future full utilization of the Tribe's 57 gpm water right.

Increased use of water for potable and nonpotable purposes in the summer months create peak water demands that exceed the averages; Table G-5 summarizes and contrasts projected water use in Furnace Creek associated with peak and average demand. Action Alternatives 2 through 4 would provide sufficient flow to meet peak demand.

Table G-3
Xanterra Water Use (gpm)

	Potable[1]	Nonpotable from Tank[2]	Nonpotable from Inn Tunnel[3]
January	188	545	
February	167	549	
March	244	574	
April	240	630	
May	226	702	
June	251	723	
July	240	717	
August	272	703	
September	206	713	
October	223	644	
November	215	555	
December	207	554	
Average	*223*	*635*	*145*
Peak	*440*[4]	*723*	*170*
Total Average		***780 (635 + 145)***	
Total Peak		***893 (723 + 170)***	

1 Monthly potable water use during 2001 and 2002
2 Monthly nonpotable water use during 2002.
3 Average nonpotable water use from the Inn Tunnel
4 Peak potable demand is established based on a 2.0 peaking factor.

Source: Eco:Logic 2002, NPS 2004b.

Table G-4
Average Water Use (gpm)

	Existing	Alternative 1	Action Alternatives
National Park Service	63p	63p	63p
Tribe	45p	57p	57p
Xanterra	223p	223p	223p
	780np	780np	780np

Source: National Park Service 2004b.

Table G-5
Future Water Use (gpm)

	Peak	Average
Potable	600	343
Non-potable	900	780

Source: Psomas 2004 and National Park Service 2004b.

Appendix H: Cumulative Projects

Agency Name: National Park Service

Project Name: *Furnace Creek Wash and Travertine and Texas Springs Wetland Enhancement*

Description: This wetland enhancement project began in 1996 to remove non-native vegetation present throughout the Texas and Travertine Springs systems. The largest concentration of non-native trees in the Furnace Creek Wash area was in the wash bottom, next to Highway 190, approximately 1.3 miles east of the Furnace Creek Inn. The project entailed cutting down non-native trees in Furnace Creek Wash and Travertine and Texas Springs and gradually restoring the native vegetation as known to exist circa 1891. Botanist Frederick Coville documented the botany of the wash and springs when he accompanied the Death Valley Expedition in 1891; therefore, the National Park Service has documentation of the species present at that time. Such species included narrow-leaf willow, blue-eyed-grass, *Juncus balticus*, various sedges, and stream orchid. Wetland enhancement work included burning, cutting, and herbicide treatment of non-native trees; removing slash and logs; raking out leaf litter; planting willow cuttings; and planting or seeding with native species as possible. On-going restoration work and flood waters have jointly reduced the concentration of non-native vegetation in this area. Some of the riparian plantings were disturbed during the August 2004 flood, and 10 to 20 mesquite and Goodings willow saplings were replaced in Furnace Creek Wash.

Concerted efforts were made to document the status of resources before and after the wetland enhancement effort to interpret the project for visitors and to monitor the area over the long-term to maintain its restored natural state.

Agency Name: National Park Service

Project Name: *Texas Springs Syncline Well No. 1 Pumping Test*

Description: The National Park Service installed three groundwater monitoring wells and subsequently test pumped the Texas Springs Syncline Well No. 1 to improve the agency's understanding of the groundwater hydrology of the Texas Springs Syncline. The National Park Service pumped approximately 600 to 700 gallons per minute over a 72-hour period. Temporary pipelines were installed to distribute the pumped water over a dispersed area, and erosion control best management practices were employed to mitigate erosion.

Agency Name: National Park Service

Project Name: *Zabriskie Point Site Management Plan*

Description: The purpose of this project is to reduce resource impacts as well as to improve circulation, interpretation, and the visitor experience at Zabriskie Point.

Zabriskie Point is located on California Highway 190 approximately 4 miles southeast of the Furnace Creek Inn. This is the second most popular interpretive area in the park, receiving more than one million visitors annually. It is also often a visitor's first stop in Death Valley National Park. Visitation exceeds the capacity of the existing parking area. In addition, the configuration of the parking and restrooms creates confusion, resulting in random parking in both designated and non-designated areas. The current access road does not meet the needs of wide turning-radius vehicles. The access trail to the Golden Canyon overlook is steep and in poor condition. The viewing area is defined by a long, curving, deteriorated stone wall. Visitors have created social trails down from the overlook into Golden Canyon, impacting resources in this area. The existing trailhead would be better defined to reduce resource impacts and improve visitor safety.

The project includes land use planning/site analysis, environmental compliance, and pre-design for improvements in circulation, parking, interpretation, and signage. Specific actions include: improved trailhead design; better defined vehicular circulation; expanded or relocated parking for cars, buses, and RVs; improved pedestrian circulation and direction; new and improved rest stops and benches; improved resource interpretation and visitor orientation, and a site sign plan.

Agency Name: Timbisha Shoshone Tribe

Project Name: *Pilot Project to Establish Traditional Management Techniques for the Mesquite Bosque near the Timbisha Shoshone Village at Furnace Creek*

Description: The Timbisha Shoshone Tribe of Death Valley, California acquired some of its traditional lands within Death Valley National Park in trust status as a result of passage of the Timbisha Shoshone Homeland Act in 2000. The Timbisha Shoshone Tribe contemplates entering into agreements with the National Park Service relative to cooperative management of several additional traditional use areas. All of these lands were subject to traditional Native American management techniques before the monument and national park were established. These techniques have not been practiced since the 1940s. A pilot project has been proposed to re-establish traditional practices in the mesquite grove at Furnace Creek. The purpose of the project will be to try and improve the condition of the resource through the reinstitution of traditional management practices. The tribe hopes this will lead to more permanent practices of Native American land management on traditional tribal lands within the park.

The mesquite groves were traditionally managed by trimming the trees, clearing and cleaning underbrush, and discarding the hard seeds of the mesquite within the groves after processing so that they would sprout into new trees. These processes increased the fruiting of the trees and the development of new trees, contributing to the grove's overall health. Today the groves are intermixed with tamarisk, are overgrown, and characterized by dead branches. A large portion of the mesquite grove is being engulfed by sand caught by this debris.

The project will involve a literature review of indigenous management techniques in native North America, interviews with tribal elders, meetings with the Tribal Historic Preservation Committee to formulate a management plan, and establishment of an herbarium of plants used traditionally by the tribe. The Timbisha Shoshone Tribe believes that the diversion of Furnace Creek water to Gower Gulch substantially affected the health of the mesquite bosque on the Furnace Creek Fan. This project is planned as a joint effort with the National Park Service and the U.S. Geological

Survey. Both agencies have interest in evaluating with the tribe the biological, physical, and cultural influences of the mesquite bosque at Furnace Creek.

Agency Name: Timbisha Shoshone Tribe

Project Name: *Timbisha Shoshone Tribe Homeland Economic Development Project*

Description: The Timbisha Shoshone Tribe is planning to develop facilities on tribal lands in Furnace Creek for purposes of community and residential development, economic development, and infrastructure improvement. The developments are a result of the passage of the Timbisha Shoshone Homeland Act in 2000. The tribe plans to develop the following facilities on tribal land at Furnace Creek:

- A maximum of 50 single-family residences
- A tribal community center with space for tribal offices, recreation facilities, a multipurpose room and kitchen, and senior and youth facilities
- A small-to-moderately sized desert inn
- A tribal museum and cultural center with a gift shop
- Infrastructure necessary to support the above-referenced development

Appendix I: U.S. Army Corps of Engineers Consultation Letter

DEPARTMENT OF THE ARMY
LOS ANGELES DISTRICT, CORPS OF ENGINEERS
VENTURA FIELD OFFICE
2151 ALESSANDRO DRIVE, SUITE 110
VENTURA, CALIFORNIA 93001

REPLY TO
ATTENTION OF:

September 21, 2005

Office of the Chief
Regulatory Branch

Death Valley National Park
c/o Environmental Science Associates
Attention: Yolanda Molette
225 Bush Street, Suite 1700
San Francisco, California 94104-4207

Dear Ms. Molette:

Reference is made to your letter and project documentation (File No. 200500572-BAH) dated November 17, 2004 regarding the proposal to implement the Reconstruction of Furnace Creek Water System project. The project would entail maintenance of and modifications to the existing system that utilizes Travertine Springs, Texas Springs, and Furnace Creek Wash near the Furnace Creek Inn in Death Valley National Park, Inyo County, California.

Based on the information furnished in your documentation and additional internal discussions, we have determined that this proposed project does not discharge dredged or fill material into a regulated water of the United States or a regulated adjacent wetland. Therefore, the project is not subject to our jurisdiction under Section 404 of the Clean Water Act and a Section 404 permit is not required from our office. Please note that this determination pertains only to the washes and springs referenced in the project documentation. Other drainages and wetlands such as the Amargosa River and its tributaries or associated wetlands may be subject to Corps jurisdiction.

Furthermore, you are hereby advised that the Corps of Engineers has established an Administrative Appeal Process for jurisdictional determinations which is fully described at 33 CFR Part 331. The Administrative Appeal Process for jurisdictional determinations is diagrammed on the enclosed Appendix C. If you decide not to accept this approved jurisdictional determination and wish to provide new information, please send the information to this office. If you do not supply additional information you may appeal this approved jurisdictional determination by completing the attached "Notification of Administrative Appeal Options and Process and Request for Appeal" form and submitting it directly to the Appeal Review Officer at the address provided on the form.

Please be aware that our determination does not preclude the potential need to comply with Section 13260 of the California Water Code (Porter/Cologne) and we recommend that you contact the California Regional Water Quality Control Board to ensure compliance with the

above regulations. Furthermore, our determination does not obviate the need to obtain other Federal, state, or local authorizations required by law.

I am forwarding copies of this letter to: California State Water Resources Control Board, Attention: Mr. Oscar Balaguer, Chief, Water Quality Certification, 1001 I Street, Sacramento, California 95814 and the California Regional Water Quality Control Board, Region 6, Lahontan Region, Attention: Mr. Harold J. Singer, 2501 Lake Tahoe Blvd., South Lake Tahoe, California 96150.

If you have any questions, please contact Bruce A. Henderson of my staff at (805) 585-2145.

Sincerely,

Antal Szijj
Acting Chief, North Coast Section

Enclosures

Index

(Future) site of Furnace Creek Inn, 1926. Photo by unknown, courtesy U.S. Borax and Chemical Corporation, catalog number FCI-101.

Index

Death Valley National Park
P.O. Box 579
Death Valley, CA 92328

www.nps.gov/deva

EXPERIENCE YOUR AMERICA

As the nation's principal conservation agency, the Department of the Interior has responsibility for most of our nationally owned public land and natural resources. This includes fostering sound use of our land and water resources; protecting our fish, wildlife, and biological diversity; preserving the environmental and cultural values of our national parks and historical places; and providing for the enjoyment of life through outdoor recreation. The department assesses our energy and mineral resources and works to ensure that their development is in the best interests of all our people by encouraging stewardship and citizen participation in their care. The department also has a major responsibility for American Indian reservation communities and for people who live in island territories under U.S. administration.

NPS D-254
October 2005

Printed on recycled paper